DOCUMENT RESUME

ED 246 286 CE 039 348

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TITLE The Dacum Workshop. Dacum 2.
INSTITUTION British Columbia Univ., Vancouver. Centre for Continuing Education.
SPONS AGENCY British Columbia Dept. of Education, Victoria.
REPORT NO ISBN-0-7718-8365-X
PUB DATE 83
NOTE 19p.; For related documents, see CE 039 347-350.
AVAILABLE FROM Publication Services Branch, Ministry of Education, 878 Viewfield Road, Victoria, BC V9A 4V1 ($2.00 for set of four, plus 10% for shipping). 10% for shipping).
PUB TYPE Guides - Non-Classroom Use (055)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Competency Based Education; Cooperative Planning; *Curriculum Design; Curriculum Development; *Educational Needs; Educational Objectives; Educational Planning; Educational Practices; Employment Qualifications; Foreign Countries; Instructional Development; Job Skills; Models; Needs Assessment; Postsecondary Education; Program Implementation; School Business Relationship; Skill Analysis; Teacher Workshops; *Technical Education; *Vocational Education
IDENTIFIERS British Columbia; *Dacum Process

ABSTRACT

This booklet, the second in a series of four volumes on the Designing a Curriculum (Dacum) process, is intended to familiarize prospective Dacum workshop participants with the goals and procedures of the workshop. The first section of the booklet comprises a description of a Dacum workshop as a means of bringing together educators and employers to develop a competency-based training program designed to produce graduates for employment in career, technical, and vocational fields. Discussed next are reasons for having a Dacum workshop, numbers and types of workshop participants, the roles of various workshop participants, and the usual locations for holding Dacum workshops. The second half of the booklet, a description of the typical Dacum workshop agenda, outlines the following workshop activities: orientation, establishment of the title and scope of the occupation under discussion, identification of the general areas of competence required by the occupation, identification of the enabling skills for performance of the occupation, and review and refinement of the initial charting of areas of competence and enabling skills. Concluding the booklet is a brief explanation of the development and review of draft copies of the competence chart. (MN)

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CE039348

The Dacum Workshop

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Canadian Cataloguing in Publication Data

Mitchell, Barbara J.
Dacum

"Prepared by Centre for Continuing Education, University of British Columbia under contract to Research and Curriculum Development Branch, Ministry of Education, Province of British Columbia . . . Researcher/Writer: Barbara J. Mitchell" — Acknowledgements.
Includes bibliographies.
Contents: 1. Introduction to Dacum — 2. The Dacum workshop — 3. From skill profile to objectives — 4. From objectives to instruction.
ISBN 0-7718-8363-3 (set). — ISBN 0-7718-8364-1 (1). — ISBN 0-7718-8365-X (2). — ISBN 0-7718-8366-8 (3). — ISBN 0-7718-8367-6 (4)

1. Curriculum planning - British Columbia. 2. Technical education - Curricula - Planning - British Columbia. 3. Vocational education - Curricula - Planning - British Columbia. 4. Education, Higher - Curricula - Planning - British Columbia. I. University of British Columbia. Centre for Continuing Education. II. British Columbia. Research and Curriculum Development Branch. III. Title.

LC1048.C87D22 378'.1996 C83-092154-0

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The Dacum Workshop

Province of British Columbia
Ministry of Education
POST-SECONDARY DEPARTMENT
1983

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Copies of the Dacum booklets can be ordered from

Publication Services Branch
Ministry of Education
878 Viewfield Road
Victoria, B.C. V9A 4V1
Telephone: (604) 387-5331
Cost: $2.00 for the series plus 10% shipping

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If you have been invited
to participate in a Dacum workshop
please read this booklet
before accepting the invitation.

Preface

This four-part series explains Dacum, an acronym for Designing a Curriculum. Dacum is a systematic method for developing career, technical, and vocational training programs. Modified versions of the Dacum model are used in a number of provinces across Canada by educational institutions, government agencies, and business and industry. In British Columbia, Dacum is used by the Research and Curriculum Development Branch of the Ministry of Education to develop curricula at the post-secondary level.

The four booklets in this series provide a detailed description of the major steps involved in the Dacum process. The booklets are:

1. **Introduction to Dacum**
2. **The Dacum Workshop**
3. **From Skill Profile to Objectives**
4. **From Objectives to Instruction**

The materials are designed for workshop participants, program developers and others in the training field.

This booklet, **The Dacum Workshop,** has been written to help prospective participants to understand the goals of the workshop, the roles of various participants, and the procedures which will be used. Participants in a workshop are there because they are experts in the job or occupation under review. Most however, will have no formal background in education or curriculum design. Instead, they represent business, industry, and the professions. This booklet provides a straightforward explanation of what goes on in a workshop and describes the valuable contribution the process makes to the development of a training program.

Acknowledgments

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Design, Typesetting and Layout:
the strait media group inc.

Continuity Editing:
BEST — Brentwood Editorial Service Technologists Ltd.

The producers wish to express their gratitude to the members of the Project Steering Committee for their advice and support during the development of this series: Joan Mason, Diane Morrison, Gerry Lengert, Derek Franklin, and Nigel Macklin.

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What is a Dacum Workshop?

The Dacum workshop is the first step in the process of developing a competence-based training program. Since training programs are aimed at producing graduates for employment in career, technical, and vocational fields, it is important for educators to work with employers to determine what particular skills are required. The workshop provides a forum for consultation and for the negotiation of training goals.

The proceedings of this forum are facilitated by the impartial coordination of a person skilled in the techniques of task analysis and group process. The participants include representatives from a range of typical employers in the occupation under review.

The end result is a *skill profile chart* (also called a Dacum chart) that is used as the basis for developing the curriculum and planning instruction. A sample skill profile chart is included in this booklet.

Why Have a Workshop?

> "Everyone knows what mechanics, dental hygienists, and travel agents do — why re-invent the wheel?"

This is the kind of question most often asked by people invited to attend a Dacum workshop. There are a number of answers.

In the first place, new jobs are being created constantly as technological advances occur in all sectors of society. For example, in the field of energy conservation, economic reality has forced us to seek alternative sources and to modify existing systems. Trained technologists are required to design and implement alternative energy and conservation programs. But what skills are required of a so-called "energy systems technologist?" A Dacum workshop could be used to establish the skill requirements for this new program area.

In addition, technological change, and sometimes legislation as well, has an effect on established training programs which, from time to time, must be reevaluated and revised to meet changing needs. An efficient and systematic way of reviewing needs is to ask: "Which skills are necessary in this occupation right now, and which will be required in the future? By describing **all** the skills needed, outmoded ones may be modified or replaced, and new ones added. Both the

known and the projected requirements are reviewed thoroughly in the Dacum workshop. This approach often brings fresh insights to established perceptions of what is needed. The result is the design of a new and better "wheel," rather than the reinvention of the old one.

In another situation, an occupational area may include a number of job categories that all share some common basic skills. A Dacum workshop may be held to bring together this apparently diverse group of employers and determine whether there is enough overlap of skills to justify the development of a core training program with a variety of options for related jobs.

For example, the occupation of mechanic is a broad one involving different specialties such as heavy duty, automotive, and small engine repair. While the particular jobs are different, many of the basic skills such as shop practice, safety procedures, use of basic tools, equipment, and systematic troubleshooting practices are common to all three. A workshop dedicated to identifying common skills and distinguishing the various options can result in a more efficient training program that will save valuable time and resources.

> If you are asked to participate in a Dacum workshop, be sure to clarify whether you are being asked to "design a new wheel," "modernize an old one," or "develop an all-purpose hubcap for a number of wheels." All three are valid applications of the Dacum workshop process, the principal purpose of which is to determine specific outcomes for training.

Who Participates?

A typical Dacum workshop includes one or two coordinators and a minimum of 8 but not more than 15 employer representatives. Instructors may be added to this number if the goal is to revise an existing program.

Participants are chosen to represent a cross section of the field under review. Employers are usually approached on the basis of regional representation, the size and scope of an operation, cooperation with training institutions, and participation in existing industry training committees or associations.

Employers are encouraged to send individuals who work in the oc-

cupation under review. For example, if the occupational area were that of "clerk-steno," then clerk-stenos would have the most immediate and thorough knowledge of what skills are required for employees. Sometimes representatives at the supervisor or foreman level may participate to provide a balance of perceptions by presenting the needs of the employer.

When a group of practitioners cannot be called together, a workshop may be held in which the key participants are instructors or trainers. Instructors are generally highly experienced practitioners. For example, a carpentry instructor will hold a journeyman's ticket, a nursing instructor an R.N. or L.P.N. registration, and so forth. Collectively, an instructor group can produce a Dacum skill profile chart which can later be validated by practitioners to ensure that it represents the current needs of the field.

What Are the Roles of the Participants?

The workshop coordinator is like a chairman on the one hand and like an orchestra conductor on the other. As chairman, the coordinator manages the time and the agenda; as conductor, he or she encourages each of the participants to contribute, while ensuring that the elements of the evolving chart are orchestrated to end up as a complete document.

Coordinators, like orchestra conductors, have individual styles and personalities, which they employ to facilitate the group process. Styles and techniques will vary from person to person, but the

general proceedings and outcomes are always based on a systematic approach.

Participants have been selected for the workshop because of their expert knowledge. They are asked to dedicate up to three days of concentrated effort to examine, debate and arrive at an acceptable level of consensus about all the skills needed in the occupation. Active involvement is essential to the success of the workshop and the thoroughness of the skill profile. In a workshop where participants are sent by employers, instructors are invited to attend primarily as resource people. From this perspective, instructors are able to hear directly what skills are required of their graduates. In addition, instructors have an opportunity to make a valuable contribution and to make contacts to use for future consultation, professional development, and placement of graduates. Instructors, with their dual expertise in instructional practice and the specific occupation, may assist the coordinator in obtaining and interpreting information from the participants and providing appropriate wording of skills for the chart.

> If you believe that you may not be the appropriate person to attend the workshop, please check with the workshop coordinator well in advance of the event, so that alternate arrangements can be made.

Where Are Workshops Held?

The usual location for a Dacum workshop is a classroom or conference facility. It is important that the room chosen have at least one long, unbroken wall, where cards used to list the general areas of competence and the enabling skills can be posted. Figure 1 illustrates a typical room set-up.

Fig. 1 Typical Workshop Set-up

What Is on the Agenda?

The particular order of events may vary according to the nature and purpose of the workshop, the preferred methods of the coordinator, and the working style of the group. In general, however, the following activities may be expected.

Orientation

The coordinator will outline the agenda for each day and discuss "housekeeping" details such as parking, meal arrangements, location of washrooms, use of telephones, and the like. Orientation is usually brief and is the time for general information and questions. It is the time for discussing why the workshop was called and for setting the goal.

> If you have any questions or concerns about what you are being asked to do, please raise them during the orientation period before the brainstorming session begins.

Establish the Title and Scope of the Occupation

Simple and self-evident as it may seem, establishing the title and scope of the occupation is vital to the brainstorming process. The title must be one that is generally acceptable to the occupation as a whole. It will often be used as part of the course or program name in college or institute publicity, so it must be clear and easily recognizable to potential trainees. For example, while the title Dental Auxiliary III may be technically correct, the commonly recognized title for this particular occupation is Dental Hygienist.

Some occupational areas may be less clear-cut, such as those where the term "technician" or "technologist" forms part of the title. Discussion of such distinctions is not merely an exercise in semantics; it is a matter of accurately defining the range and scope of the occupation. An accurate title helps to keep the group on track, as it begins the process of identifying specific skills.

Identify the General Areas of Competence

Once an acceptable title has been created, the group proceeds to identify broad categories of employee responsibility called *general*

areas of competence. These serve as broad headings under which related skills can be organized. Some of the general areas of competence for a Travel Agent, for example, are: package tours, domestic air, and office procedures.

The general areas of competence are written on cards waxed on the back so that they stick to the wall. The cards are arranged vertically down the left-hand side of a wall in front of the group, as is shown in figure 2. At this stage, the sequencing of the cards is arbitrary. Later, they may be reorganized.

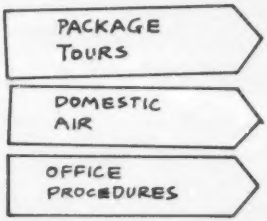

Fig. 2 Sample General Areas of Competence

Sometimes the group may get bogged down in its first attempt to identify the general areas of competence. The process is an analytical one which requires the participants to think about all the skills and then group them under headings. The coordinator may decide to change to a brainstorming technique where the group is asked to just randomly list all the major and minor skills. Later these skills can be organized and edited into major groupings, which are then identified as general areas of competence.

Dacum is a systematic process and the coordinator has the responsibility to ensure that all the steps are followed. How this is accomplished is often dictated by the style of the particular group.

Identify the Enabling Skills

While the general areas of competence describe the major categories of responsibility, each category involves a number of specific skills that contribute to performance on the job. These are called *enabling skills*. Determining precisely what these skills are in each area is the next task of the group. The group may choose to examine one area at

a time, or they may choose to examine all the areas, using a brainstorming approach, and then group and sequence the items later.

Returning to the example of the Travel Agent, some of the enabling skills related to the general area Domestic Air are shown in figure 3.

Fig. 3 Sample Enabling Skills

Enabling skills must state clearly and concisely the skills that are performed on the job. Choosing the appropriate verb to express the skill is most important. For example, there is a significant difference between knowing the importance of a good first impression and actually creating a good first impression, which is the behaviour expected on the job.

While the knowledge required to create a good impression is important, it is virtually impossible to see knowledge. But it is possible to see the application of knowledge by observing a learner performing a specific task. In Dacum, it is assumed that in order for a learner to demonstrate a particular skill, he must understand or know the processes involved.

Enabling skills describe activities which range from simple physical actions to sophisticated processes like problem-solving. Sometimes it becomes difficult to describe the more sophisticated processes in simple terms. Positive attitudes, for example, are an important part of any job. But how can anyone know when a trainee has learned a positive attitude? One way is to describe the kinds of behaviour which reveal good attitudes.

For example, Arrive On Time is one clear measure of whether or not the learner has developed a sense of responsibility. Obey Safety Regulations provides a way of measuring the learner's attitude towards safety and his or her sense of professionalism.

Whenever possible, the terminology used to describe the skills should reflect what is used in the field. Jargon can be useful, because

it is a language everyone in the field knows and understands.

Enabling skills should always reflect what is actually done on the job under typical working conditions, not the content of a conventional job description. For example, job descriptions often contain requirements like Have A Good Knowledge Of Various Departmental Programs. This does not explain what the applicant must be able to do, and may in fact be something learned on the job rather than in pre-employment training.

Future as well as current requirements should be reflected in the enabling skills. It is important to project needs somewhat, because of the time lag between the Dacum workshop and the graduation of the first students from the program.

There is often considerable overlap within an occupation, depending upon the level of the job. For example, a Registered Nurse, a Licenced Practical Nurse, and a Nurse's Aide may all need to be able to Ambulate Patients, but an R.N. may also Direct the activity. Care should be taken to ensure that the *exact level* of function, as practiced in the field, is reflected on the chart.

Finally, enabling skills must be measurable. If it is not possible to visualize how a learner's performance might be evaluated, then the skill statement should be made more explicit.

> The coordinator may need to remind the group, from time to time, to keep its focus on job skills. Identifying enabling skills is a process generally requiring considerable discussion, which can easily lead the group off track.

Review and Refine the Chart

The initial charting of general areas of competence and enabling skills takes about two-thirds of the allotted workshop time. Once the charting is complete, the process of review and modification takes place.

At this point, the wall will be covered with cards, as shown in figure 4. Across from each general area will be a number of enabling skills. The sequence of skills will still be quite random, but the chart, in first draft form, should be essentially complete.

Next, a systematic review of the chart is undertaken to identify gaps, overlaps, and imprecisely worded statements. The review pro-

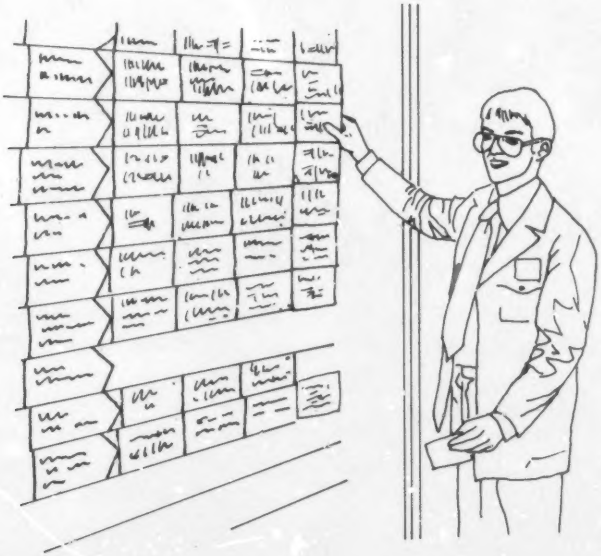

Fig. 4 Reviewing the Chart

cess is often aided by rearranging the cards into a logical sequence. Generally, skills are sequenced left to right from simple to complex or, if appropriate, in the order of performance on the job.

It is important to note that the sequencing of enabling skills at this stage is done primarily for the purpose of systematic review and editing. Later, when the instructional plans and resources are developed, the order of the items may be changed to reflect the principles of instruction.

Once the review process is complete and all the modifications have been made to the satisfaction of the group, the task analysis part of the workshop is over.

In Summary

The Dacum workshop includes the following steps:

1. Orientation
2. Establishing the title and scope of the occupation
3. Identifying the general areas of competence
4. Identifying the enabling skills
5. Reviewing and refining the chart

What Next?

Draft copies of the completed chart are made and sent to each participant for individual review and comment. In addition, the chart may be sent to employers and instructors who were not directly represented at the Dacum workshop. Their objective comments and suggestions are sought for the purpose of validating the skills and obtaining broader acceptance for the new curriculum. In general, it has been found that a rigorous workshop session produces a valid and useable document requiring little modification.

The next step in the Dacum process is to draft a set of objectives based on the skill profile chart. (See From Skill Profile to Objectives, the third booklet in this series.) Writing and organizing the objectives, developing the instructional plans, the resources and the evaluation procedures all begin with the skill profile chart: the fundamental program-planning tool for a competence-based instructional program.

> Participants from all occupational areas have reported that the Dacum workshop experience was challenging, interesting, occasionally frustrating and, almost always, refreshing. Training programs benefit greatly from active involvement by employers in the initial planning stages. Workshop participants benefit from the stimulating interchange of ideas with their colleagues in this unique forum. If you have been invited to attend a Dacum workshop, please accept the challenge to make a vital contribution to the educational enterprise.